



# ENERGY STAR® 101

## Solid-State Lighting Luminaire Program

Derek Greenauer  
D&R International  
Lighting Program Manager

# Agenda



1. **What is ENERGY STAR?**
2. Maximize Your Partnership
3. Working with EEPS
4. Leveraging ENERGY STAR
5. Questions

# What is ENERGY STAR?



- The national symbol for energy efficiency
- Awarded to products that meet strict energy-efficiency guidelines set by U.S. Department of Energy (DOE) and the U.S. Environmental Protection Agency (EPA)



- Serves as a marketing platform for retailers, manufacturers, and utilities to promote energy efficient products
- Participation in the program is voluntary

# The Value of ENERGY STAR

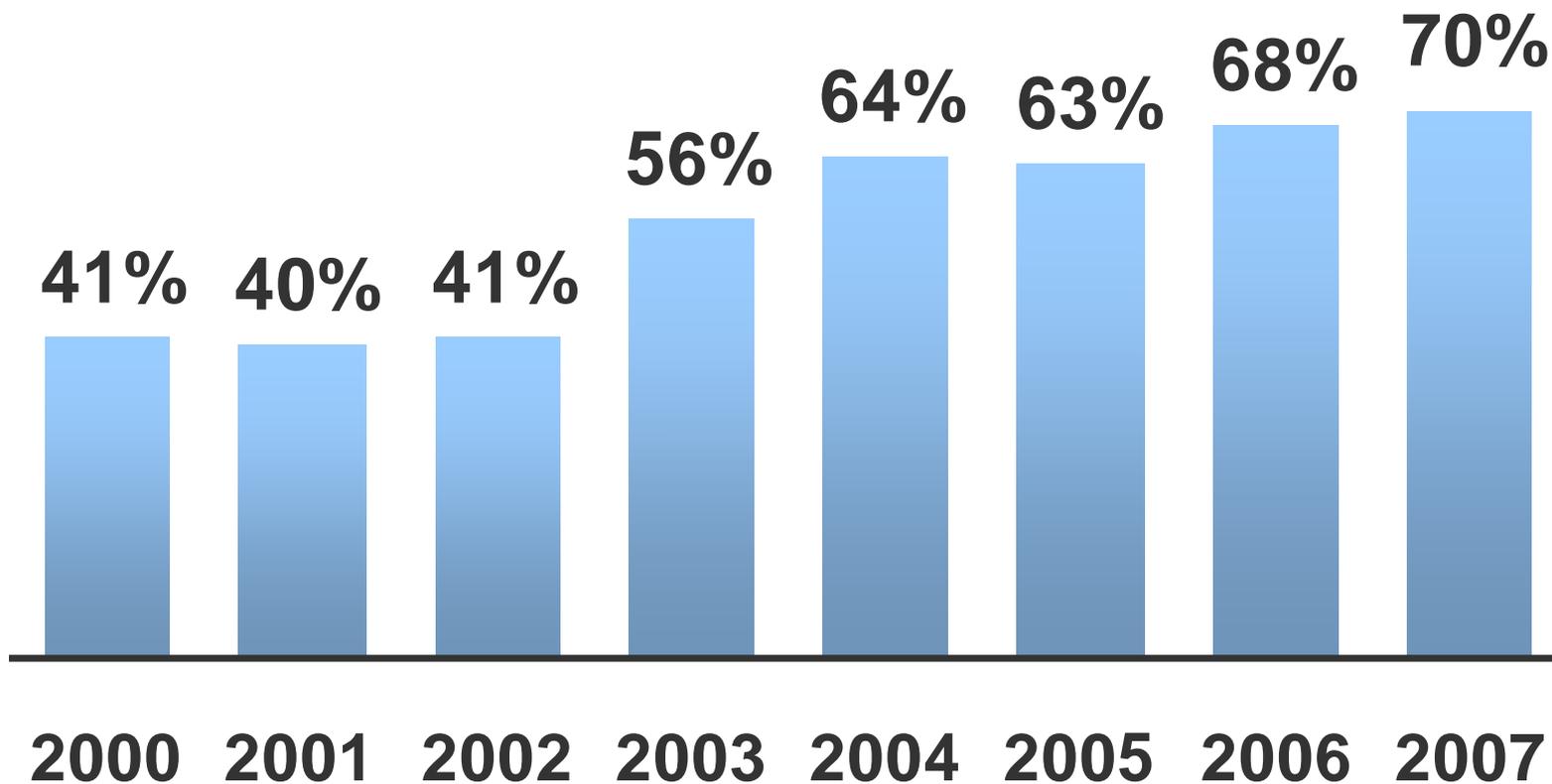


- Helps consumers identify energy efficient products through:
  - ❑ Common language
  - ❑ Single set of performance criteria
- Eases sales process
  - ❑ Offers partners cost-effective ways of promoting energy efficient products to consumers
  - ❑ Credible, objective information about energy efficient options
- Elevates your brand awareness in U.S.
  - ❑ Signal corporate commitment to social good
  - ❑ Attracts consumers

# Consumers Recognize the ENERGY STAR Logo

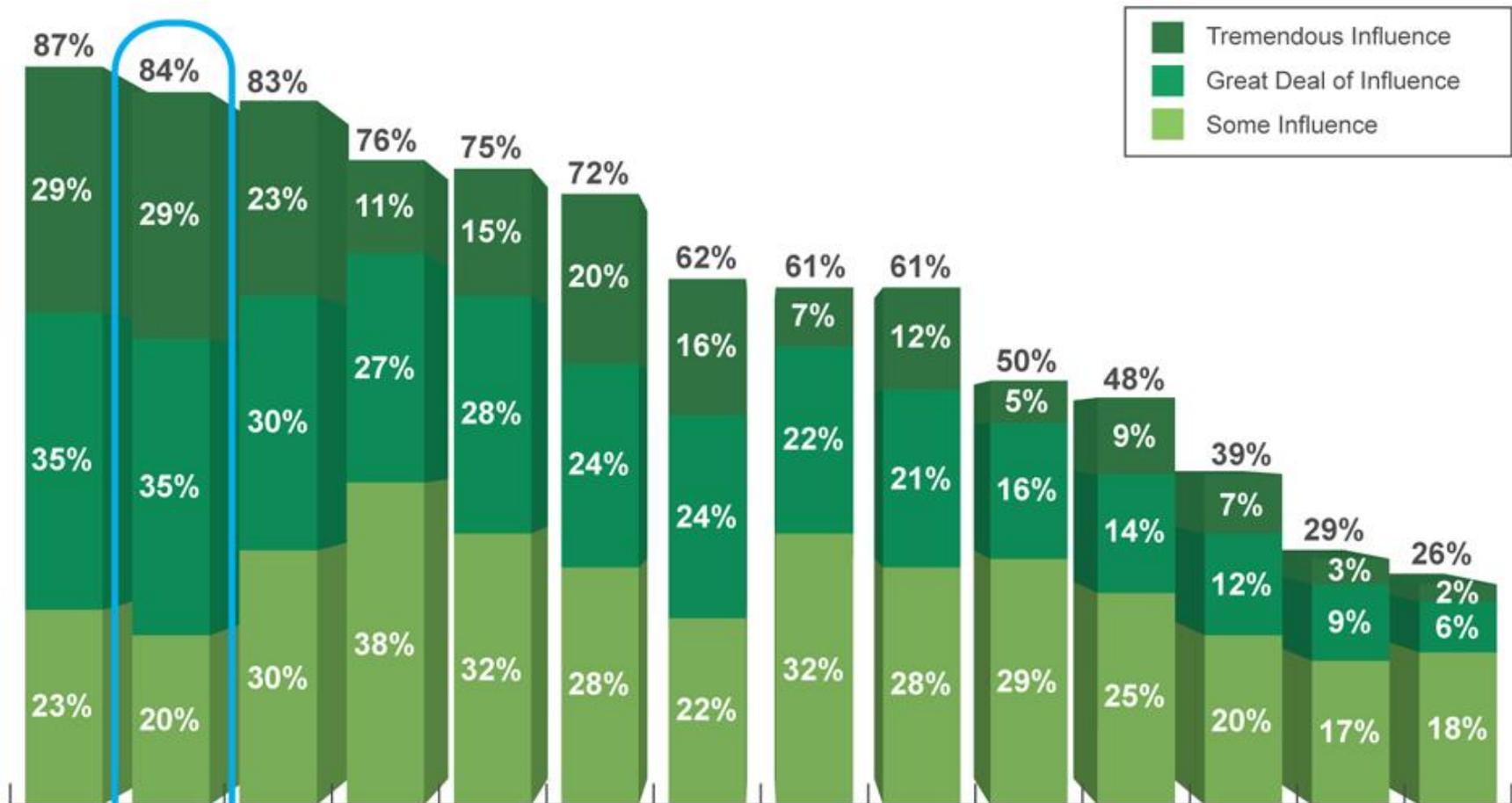


## Aided Recognition of ENERGY STAR Label



Source: Consortium for Energy Efficiency Household Surveys (2001-2007). Standard errors vary between 1.5% and 2.2%.

# ENERGY STAR Influences Purchasing Decisions



- Tremendous Influence
- Great Deal of Influence
- Some Influence



S Source: Fairfield Research, Summer 2007

# Over 60 ENERGY STAR Product Categories



## Labeled Products

- Appliances
- Commercial Food Service
- Heating & Cooling
- Home Electronics
- Lighting
- Office Equipment
- Windows, Doors & Skylights
- Other Products

## Labeled Buildings

- New Homes
- Commercial & Institutional

## Services

- Home Improvement
- Business Improvement



# Encourages Collaboration



Opportunities for partners to collaborate include:

- Annual ENERGY STAR Partner Meetings
  - Appliance Partner Meeting
  - Lighting Partner Meeting
- ENERGY STAR Criteria Setting Meetings
- ENERGY STAR National Campaigns
  - Change a Light, Change the World
  - Cool Your World
  - Refrigerator Retirement Campaign

# Who's Involved with ENERGY STAR?



ENERGY STAR is a network of allied organizations:

- Federal Government (DOE and EPA)
- Manufacturers
- Retailers
- Energy Efficiency Program Sponsors (EEPS)
  - Utilities, States, and Energy Offices
  - Over 500 Utilities serve more than 62 million households

# Who's Involved with ENERGY STAR?



## Manufacturers



imagination at work



**PHILIPS**

sense and simplicity



## Retailers



You can do it. We can help.™

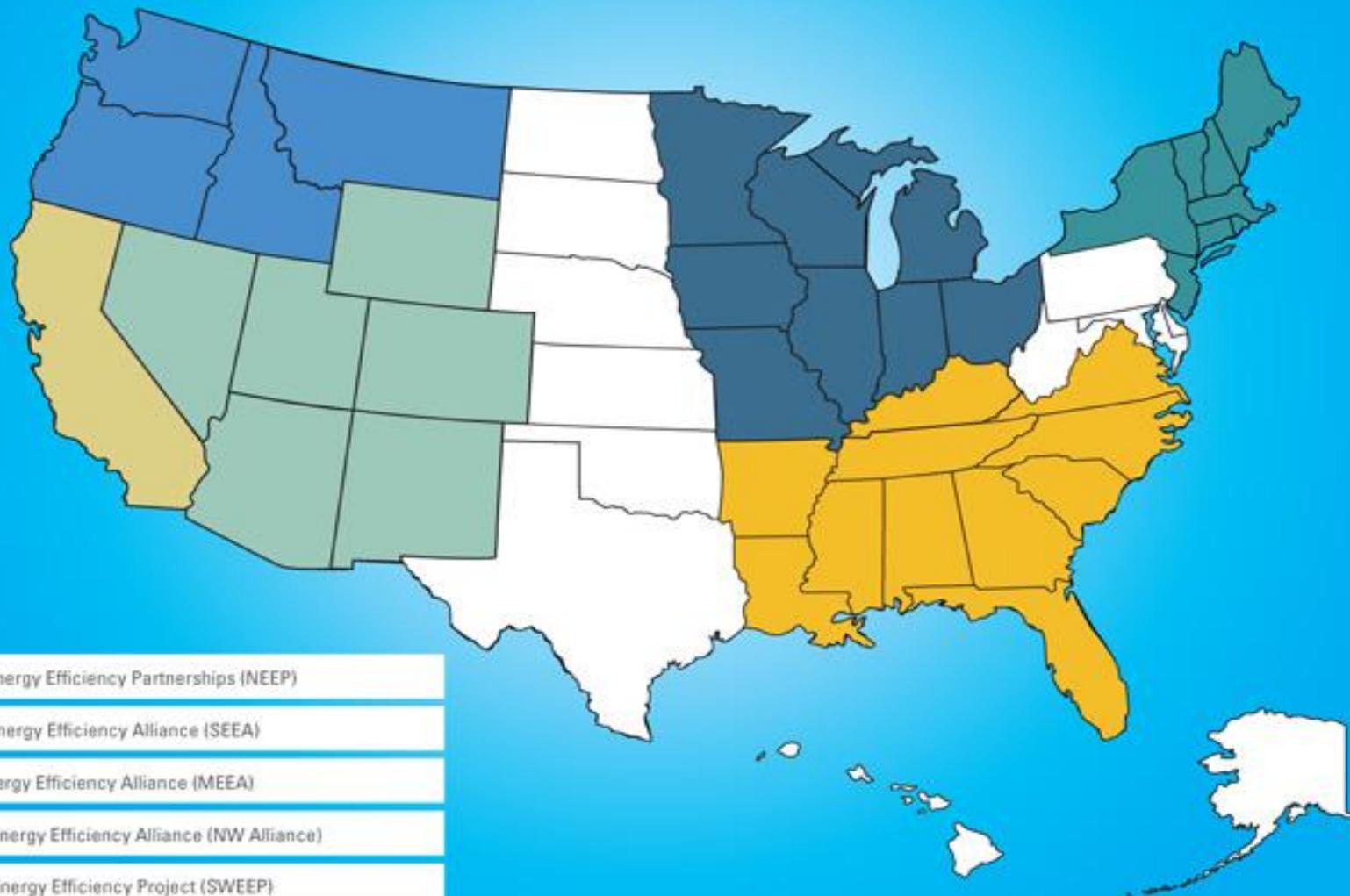


LEARN MORE 

## Program Sponsors



# Regional Groups Supporting ENERGY STAR® Products



- Northeast Energy Efficiency Partnerships (NEEP)
- Southeast Energy Efficiency Alliance (SEEA)
- Midwest Energy Efficiency Alliance (MEEA)
- Northwest Energy Efficiency Alliance (NW Alliance)
- Southwest Energy Efficiency Project (SWEET)
- Some Statewide Coordination Among Major California Utilities

Note: This map identifies service territories for select regional groups. Coverage and activity level varies by state.

# Energy Efficiency Program Sponsors (EEPS)



- Utilities
  - CA IOUs, Georgia Power, Duke, NGRID, LADWP etc
- State and Local Government Agencies
  - NYSERDA, GEFA, WI FOE
- Regional Organizations
  - Northeast Energy Efficiency Partnerships (NEEP), Northwest Energy Efficiency Alliance (NEEA),
- Other stakeholders – Non-profit organizations, and other partner types as determined on a case-by-case basis

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# Product Qualification Steps



1. SSL Program Partnership Agreement
2. Manufacturer Guidelines
3. Product Groupings
4. Online Process for Qualification Submission



# Step 1: SSL Partnership Agreement

- Review Program Requirements
- Complete and Sign a Partnership Agreement
  - ❑ Voluntary, non-binding document
- Send to [partnerships@drintl.com](mailto:partnerships@drintl.com)

# Step 2: Manufacturers Guide



- Outline the Process for Submitting Products
- Application Forms
- Checklist of Data Needs
- Sample Size
- Approved Margins of Error
  - Guide Posted at [www.energystar.gov/sslpartners](http://www.energystar.gov/sslpartners)
- Living Document



U.S. Department of Energy

**ENERGY STAR®**  
**Manufacturer's Guide for**  
**Qualifying Solid-State**  
**Lighting Luminaires**

September 2008

# Step 3: Product Group Qualification Process



- Partner defines the group of similar products
- D&R will verify that all members of the group are identical except for minor variations
- Partners will provide a single luminaire to represent group
- If it passes, all the members of group will be qualified

# Product Variations



<b>Variations Within Product Groupings</b>	
<b>Housing/Chassis</b>	<b>Not Allowed</b>
<b>Heat Sink/Heat Management</b>	<b>Not Allowed</b>
<b>Finish</b>	<b>Allowed</b>
<b>Reflector/Trim</b>	<b>Allowed</b>
<b>Shade/Diffuser</b>	<b>Allowed</b>
<b>Mounting</b>	<b>Allowed</b>
<b>Light Source</b>	<b>Allowed with Conditions</b>
<b>Power Supply</b>	<b>Allowed with Conditions</b>

# Step 4: Online Process for Application Submission



- Submit applications online through My ENERGY STAR Account
  - SSL Online Product Submittal Tool (SSL-OPS)
- Upload test reports and packaging to Web site
- Receive feedback within a week
- Packaging approved by D&R Account Manager



ENERGY STAR



## SOLID-STATE LIGHTING PRODUCT SUBMISSION WEB TOOL

ENERGY STAR

[Home](#)

[Help](#)

### Welcome to the ENERGY STAR SSL Product Submission Tool

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The ENERGY STAR Program Requirements for Solid-State Lighting (SSL) Luminaires are intended for general illumination. SSL general illumination devices were not previously covered by any ENERGY STAR product category, although there are other product categories using light emitting diodes (LEDs) for non-illumination purposes, including indication and decoration.

The following applications are presently covered by the ENERGY STAR SSL Program:

#### Residential Applications

- Under-cabinet kitchen lighting
- Portable desk task lights
- Recessed, surface and pendant-mounted downlights
- Ceiling-mounted luminaires with diffusers
- Cove lighting
- Surface-mounted luminaires with directional head(s)
- Outdoor wall-mounted porch lights
- Outdoor step lights
- Outdoor pathway lights
- Outdoor pole/arm-mounted decorative luminaires

#### Commercial Applications

- Recessed, surface and pendant-mounted downlights
- Under-cabinet shelf-mounted task lighting
- Portable desk task lights
- Wall wash luminaires
- Bollards

**To begin entering new products**, click "Begin" below. You may also review products that you have submitted, that have been returned, and that have been previously qualified by choosing from the tabs at the top of the screen.

**Begin**

[Enter new Solid State Lighting Products](#)

**Go**

[Return to MESA](#)



# SOLID-STATE LIGHTING

## PRODUCT SUBMISSION WEB TOOL

ENERGY STAR

Home

In Progress (2)

Submitted (0)

Returned (0)

Qualified

Help

Product Information

Product Certification

File Uploads

Results

## Product Information

**Brand Name**

Enter the brand name under which this model is sold.

**Model Name**

Enter an optional name that describes this model.

**Model Number:**

**Fixture Application:**

**Fixture Type:**

**Nominal Wattage:**

**Lumen Output:**

You may choose the lumen output from either the Goniophotometer Test or the Integrating Sphere Output Report.

**Is this a private-labeled product?**  **Yes**

*Check the box only if you are **not** the original equipment manufacturer (OEM) of this product.*

**Next**

# Quality Assurance Program



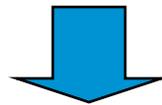
- Third-Party, Independent Labs
- Manufacturer-funded
- Off-the-Shelf Testing
- Carry Stiff Penalties

A Quality Assurance Testing Program Manual is in development and will be available on the ENERGY STAR Web site.

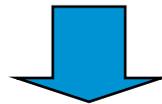
# Results of Non-compliance



- One product failure in a grouping will disqualify the entire group.



- Two product failures in a grouping will place the partner on a probationary list.



- Probation suspends partner's ability to use groupings and have to qualify each unique product separately.



- Partner is removed from probation after one year.

# Agenda



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# Why Offer Efficiency Programs



- Energy Prices Continue to Soar
- Climate Change is Mainstream
- 2007 Energy Bill
- Energy Security
- RGGI – CO2 Cap & Trade regimes
- Energy Efficiency as the Fifth Fuel



The sun sets over the Manhattan skyline during a major power outage in 2003 – *Time Magazine* 8/11/08

## Bruce Johnson, Director of Energy Efficiency Implementation, National Grid

“Right now this **resurgence seems to be sustainable**, primarily because it’s not entirely related to the regulatory environment. **Climate change** is going to be on **our conscience for the foreseeable future.**”

## Jeff Lyash, President and CEO, Progress Energy Florida

“For the first time in decades, **people are thinking about the cost and environmental impact of energy usage.** It is now regularly covered in the mainstream media, a key subject of presidential debates, and a topic of discussion in places from classrooms to coffee shops.”

## Ted Schultz, Vice President of Energy Efficiency, Duke Energy

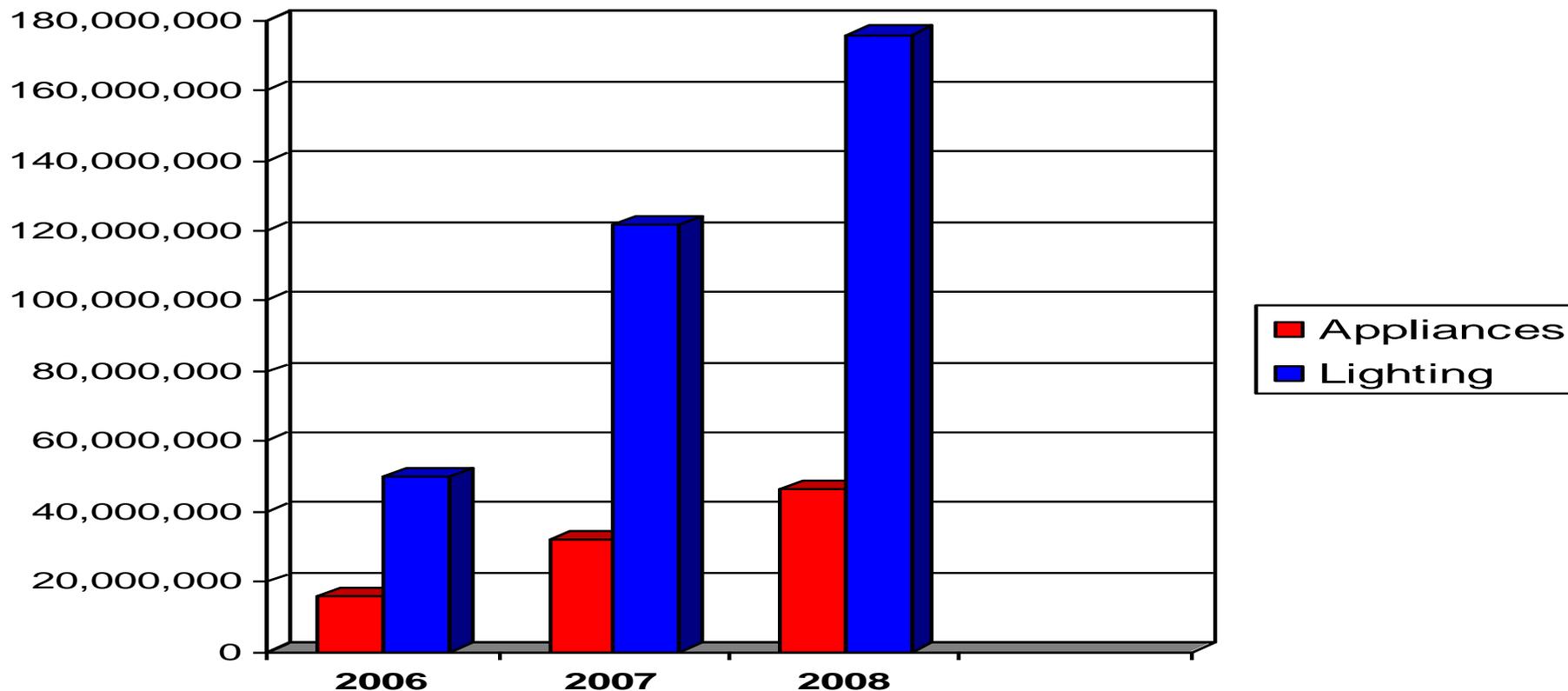
“Clearly, **energy efficiency has staying power** with the current issues around climate change. We’ve never been in a position like this before...we have a **great opportunity to make energy efficiency a norm for all our customers.**”

# Customer Attitudes



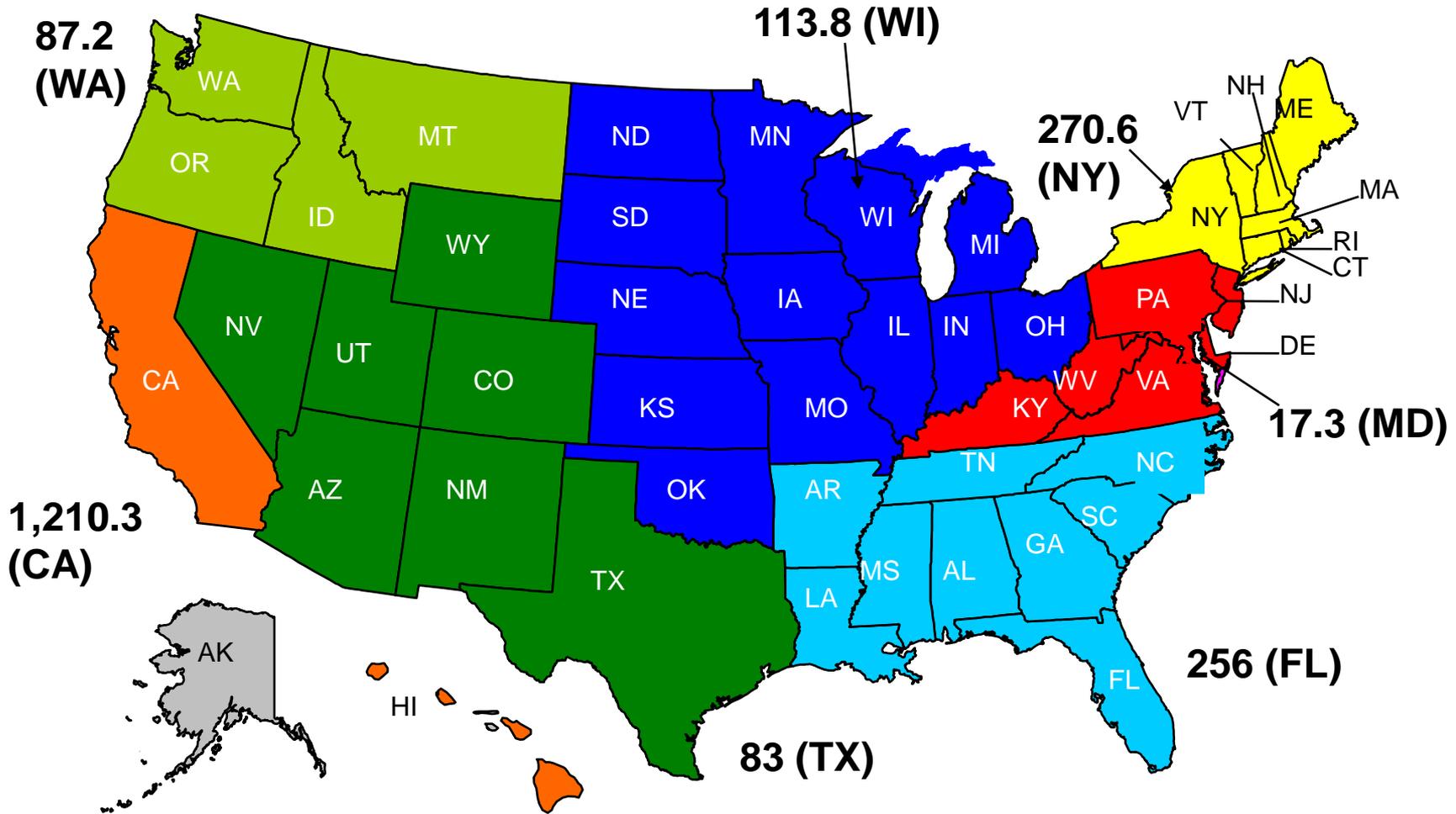
- 82% of Americans believe in global warming, and there is widespread belief that human behavior is contributing to the problem.  
Fox News/Opinion Dynamics Poll, Spring 2007
- Majority believe immediate action needed  
NY Times/CBS Poll, April 2007
- 86% would choose one home over another based on its energy efficiency.  
Shelton Group/Energy Pulse, 2006
- 63% say change their consumption habits based on increase in energy prices.  
Shelton Group/Energy Pulse, 2006

# Lighting and Appliance Program Budgets 2006 - 2008



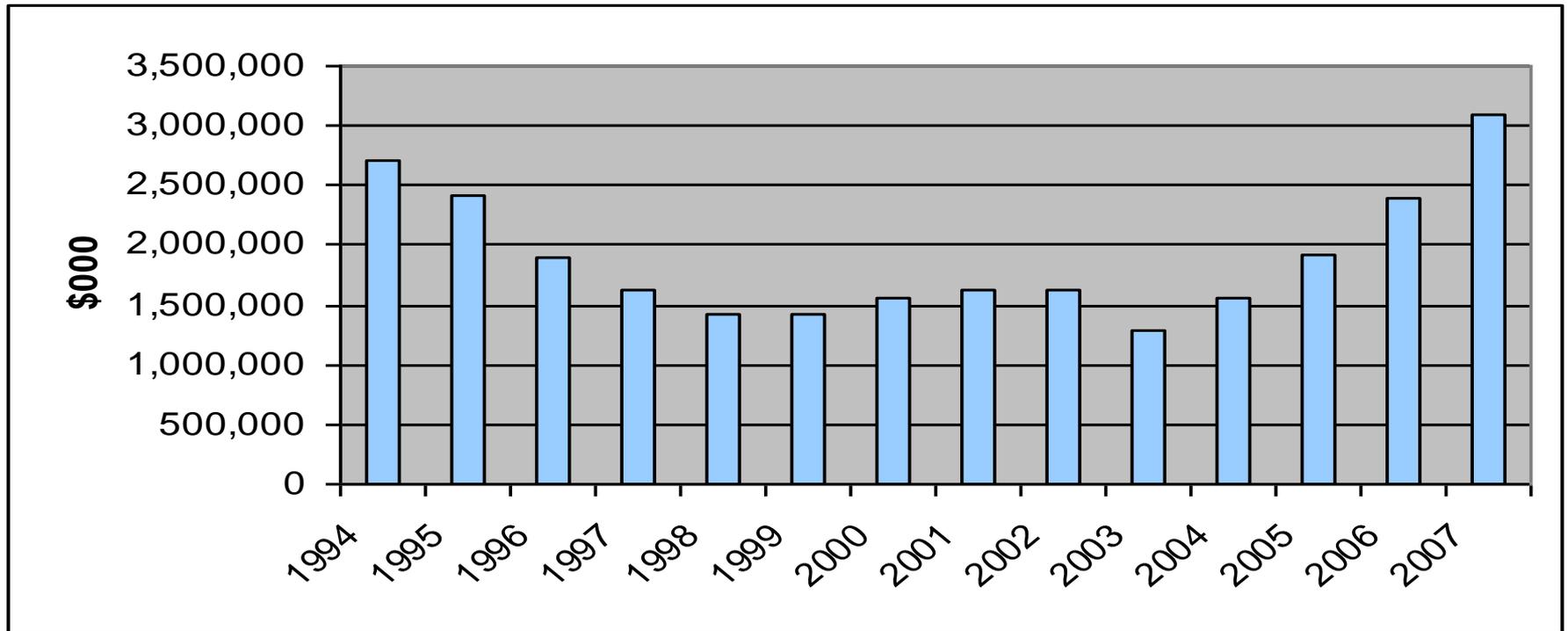
Source: D&R Appliance and Lighting Program Guides

# Energy Efficiency Budgets (\$3.1 Billion in US)



Source: CEE U.S. ENERGY-EFFICIENCY PROGRAMS  
A \$3.7 Billion US and Canadian Industry  
2007 REPORT

# Annual Electric Utility Spending on Energy Efficiency



**Will eclipse \$5B within several years!**

**Many states could increase EE spending exponentially in the near term: IL, MO, MD, NC, SC, NM, OH, MI, VA, others?**





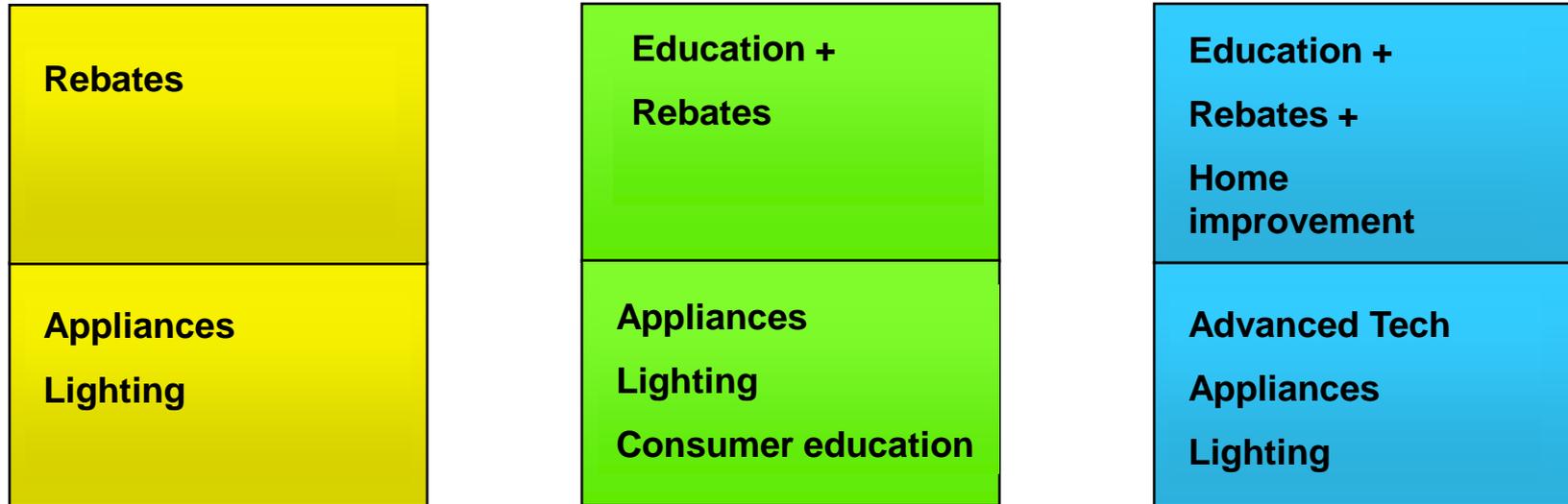
“**BOSTON**— National Grid, which supplies about half the state’s electricity, plans to dramatically boost spending on energy conservation programs in the state, with a **30 percent** increase next year and a doubling of the current spending to more than **\$125 million** annually over the next three years, according to company officials.”

*Worcester Telegram & Gazette 9/14/08*

# Regional Variability of Programs



## P r o g r a m s



## T e c h n o l o g i e s

Emerging Markets  
Mid-Atlantic, SE, SW



Mature Markets  
NE, MW, PNW

# So, How Do You Fit In?

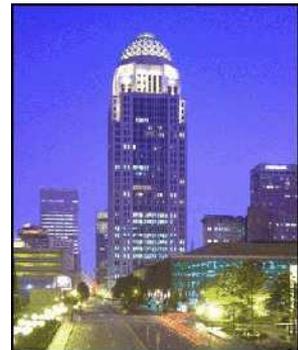
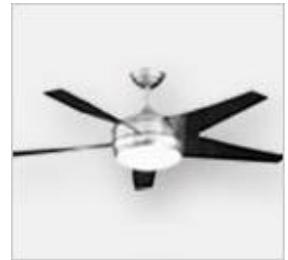


- Increased EE Program Funding = Increased Demand for EE Products & Services (+Education)
- Get Involved! ...
- Need much more effective integration of emerging technology into portfolios
- Need to consider the process technology as well as widget technology

# Portfolio of Strategic Investments



- Define, educate, and promote cost-effective energy/environmental savings through single designation: ENERGY STAR
- Residential initiatives
  - ❑ Efficient products
  - ❑ Efficient new homes
  - ❑ Existing home efficiency improvements
  - ❑ Affordable housing
- Commercial initiatives
  - ❑ Efficient products
  - ❑ Existing building efficiency improvement
  - ❑ Efficient new construction
- Industrial initiatives



# Working with your Utility Partner



- Sales Data!
  - ❑ Be generous to your partner and provide information
  - ❑ Utilities need market share lift data to justify \$ spent
- Recognition
  - ❑ Utilities understand that in-store messaging needs to conform to the retailers guidelines
  - ❑ Retailers need to understand that utilities need recognition for their efforts
- Communication
  - ❑ Utilities plan months in advance for bill inserts, retailers and manufacturers should communicate in advance any problems with agreed upon promotions

# Working with your Utility Partner



## ■ Rebate Options

- Mail in applications
- Online Applications
- Retailer Point of Sale
  - Store Register
  - Store Website
    - Utilities prefer these as they are the most cost effective and easiest to administer

# Utility Requirements



- Customer Data Collection
  - Retailer reports
  - Gift cards
  - Tear pads with customer info
  
- Utility POS contracts
  
- Qualified product availability

# Utility Reporting



- Utilities report influences by those purchases and the savings claimed by products
  - ❑ Energy - kWh
  - ❑ Gas – Therms
- Savings are claimed to the PUC
- Need to prove that they affected customer purchase
- Prove that they are customers of that utility area
- Prove that product was installed
- Prove the savings claim of each product

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# Consumer Outreach Activities



- Simple and Clear Messaging
- Web Content – [www.energystar.gov/led](http://www.energystar.gov/led)
- Tools and Resources

# Simple and Clear Messaging



- ENERGY STAR messaging:
  - Initial Targets:
    - Residential: Early adopters attracted by new technology
    - Commercial: Lighting designers
  - Primary Message:
    - Residential Indoor: Superior light quality
    - Residential Outdoor: Durability
    - Commercial: Design elements
  - Secondary Messages: Long life; energy savings
- CFLs are not the enemy – there is room for both

# Simple and Clear Messaging



- Reduce energy costs
- Lasts a long time
- Lowers maintenance costs
- Reduces cooling costs
- Comes with three-year warranty

# Simple and Clear Messaging



## Application-specific messaging:

- ENERGY STAR LED undercabinet shelf-mounted lighting:
  - *“Accent and task lighting with clarity and sparkle. Great for illuminating work spaces and showcases.”*
  
- ENERGY STAR LED outdoor step lights:
  - *“Provide lasting, sturdy, reliable, and safe outdoor lighting.”*
  
- Commercial ENERGY STAR LED Recessed Downlights:
  - *“Commercial ENERGY STAR LED Downlights provide high quality, low energy light while reducing cooling and maintenance costs.”*

# Web Content



The screenshot shows the ENERGY STAR website interface. At the top, there's a navigation bar with the ENERGY STAR logo and a search bar. Below that, a banner reads "BUY PRODUCTS THAT MAKE A DIFFERENCE" with the U.S. Environmental Protection Agency and U.S. Department of Energy logos. The main navigation menu includes "Products", "Home Improvement", "New Homes", "Buildings & Plants", and "Partner Resources". The "Products" section is expanded to show "Residential LED Lighting for Consumers". A sidebar on the left lists various product categories like Appliances, Heating & Cooling, Water Heaters, Home Electronics, Lighting, and Light Fixtures. The main content area features a house icon and text explaining that ENERGY STAR qualified LED lighting is a natural fit for renovation projects, using 75% less energy and lasting 25 times longer. It includes links for "Why Choose ENERGY STAR Qualified LED Lighting?", "Buyers Guide", "Learn About LEDs", and "LED FAQs". A right sidebar offers "Find a Product", "Find a Store", "Special Offers", and "LED Lighting Resources for Partners". At the bottom, there are links for "Email This Page" and various utility links like "Products", "Home Improvement", "New Homes", "Buildings & Plants", "Partner Resources", "Kids Publications", "News Room", "FAQs", "Contact Us", "Privacy", "Site Index", and "Recursos en Español". Logos for EPA Home and DOE Home are also present.

- Product List
- Product Finder
- Rebate Finder
- FAQs
- Consumer Education Tools
- Savings Calculator (under development)

# Tools and Resources



- Partner Resource Guide
- Info Graphics
- SSL Facts and Figures
- Frequently Asked Questions (FAQs)
- Program Design Guide
- Product Profile, Market Profile, Product Snapshot
- Media Outreach and Support
- Sales Data



# Sample Info Graphics

## Did you know?

You need 40 incandescents or 6 CFLs to match the lifespan of 1 LED!



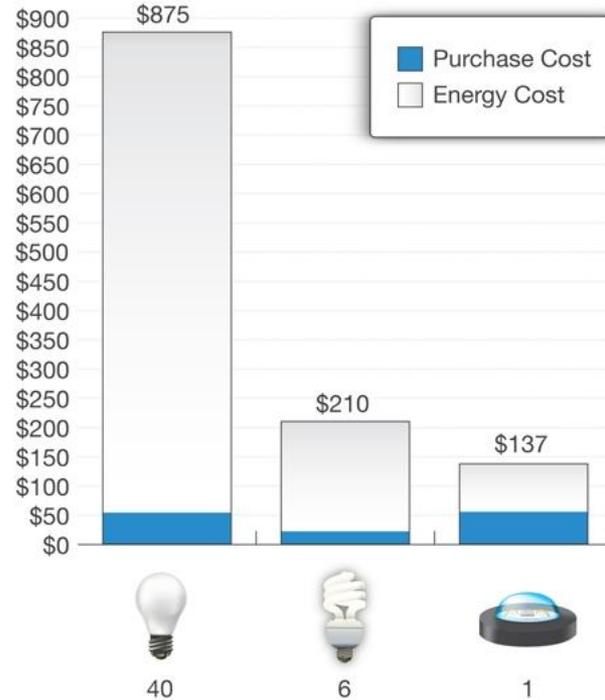
Incandescent  
Light Bulbs

CFLs

LED

## Save BIG with LEDs...

LEDs use 10-12 times less energy than incandescent bulbs!



Substituting 1 LED for 40 incandescent bulbs can save you **\$738<sup>3</sup>**

# Partner Outreach Activities



- Announce progress and share information via e-newsletter
  - Subscribe by sending an e-mail to [ssl@drintl.com](mailto:ssl@drintl.com)
  
- Web pages are ready
  - [www.energystar.gov/led](http://www.energystar.gov/led)
  - Buyer's Guide
  - Qualified products list
  
- Solicit Feedback:
  - Proposed Category A Expansion
  - Efficacy Ratcheting
  - Future criteria for replacement lamps

# Upcoming Events



- 2<sup>nd</sup> Draft of Integral LED Lamp Criteria
- Category A expansion
- Launch Quality Assurance Program

# Questions?



[SSL@drintl.com](mailto:SSL@drintl.com)

Derek Greenauer [dgreenauer@drintl.com](mailto:dgreenauer@drintl.com)

Andre Javier-Barry [ajavierbarry@drintl.com](mailto:ajavierbarry@drintl.com)

Taylor Jantz-Sell [tjsell@drintl.com](mailto:tjsell@drintl.com)

Jason West [jwest@drintl.com](mailto:jwest@drintl.com)

D&R International

(301) 588-9387